CLAIMS

1.-32. (Canceled).

33. (New) An apparatus for directing communications among a plurality of resources, comprising:

one or more switch components configured to:

analyze each of a plurality of data flows; and

determine if each of the data flows is associated with a requested resource and:

when the data flow is associated with the requested resource, direct the data flow to the requested resource; and

when the data flow is not associated with a requested resource, request instructions from a control component;

one or more control components each configured to:

receive a request from at least one switch component for instructions on handling the data flow when the data flow is not associated with a requested resource; and

provide instructions to the switch component for handling the unassociated data flow,

wherein a capacity of each of the one or more switch components and a capacity of the one or more of control components is independently scalable by one or more of:

changing the capacity of one or more of the switch components and one or more of the control components; and

changing one or more of a number of the switch components and control components.

34. (New) The apparatus of claim 33, wherein each of the one or more switch components is further configured to:

receive a plurality of data packets; and

categorize groups of one of more data packets into one or more data flows.

35. (New) The apparatus of claim 33, wherein each of the one or more switch components is configured to access a data flow table to determine from each of the data flows if the data flow is associated with the requested resource.

36. (New) The apparatus of claim 35, wherein at least one of the one or more switch components and the one or more control components is further configured to modify the data flow table.

37. (New) The apparatus of claim 36, wherein at least one of the one or more switch components and the one or more control components is further configured to modify the data flow table to reflect the instructions for handling a subsequent data flow presenting a previously unassociated flow data flow.

38. (New) The apparatus of claim 36, wherein one of the one or more switch components and the one or more control components is further configured to:

identify an occurrence of an event associated with the data flow; and

respond to the event by modifying the data flow table to alter a response to subsequent data flows affected by the event.

39. (New) The apparatus of claim 38, wherein the event includes one of:

an overflow condition; and

a timeout condition.

40. (New) The apparatus of claim 33, wherein the data flow includes information about a source and a destination for each data packet in the data flow.

41. (New) The apparatus of claim 33, wherein the data flow includes a timestamp.

42. (New) The apparatus of claim 33, wherein the one or more switch components collect information regarding each connection to each resource.

43. (New) The apparatus of claim 42, wherein the information includes one or more of:

a most active flow;

a least active flow;

a most recent activity; and

a time the data flow was opened.

44. (New) The apparatus of claim 42, wherein the one or more control components is configured to use the information collected by the one or more switch components to generate instructions for one of:

the handling of subsequent data flows presenting not associated with a requested resource to achieve load balancing between the one or more resources; and

delete a data flow that has timed out.

45. (New) The apparatus of claim 33, wherein the one or more switch components and the one or more control components communicate over a message bus.

46. (New) The apparatus of claim 33, wherein the one or more switch components and the one or more of control components are configured to communicate asynchronously.

47. (New) The apparatus of claim 33, wherein each of the one or more of control components is configured to perform control and policy enforcement actions for each flow.

48. (New) The apparatus of claim 33, wherein the one or more control components share a load of instruction requests from the one or more switch components.

49. (New) The apparatus of claim 33, wherein each of the one or more control components are configured process requests from the one or more switch components directed to an other control component when the other control component fails to operate.

50. (New) The apparatus of claim 33, wherein the one or more control components each receive all instruction requests from the one or more switch components to provide fault tolerance when one of the one or more control components fails to operate.

51. (New) The apparatus of claim 33, wherein:

the one or more switch components are implemented with dedicated hardware components; and

the one or more control components are implemented with a programmable processing unit executing instructions stored in a rewritable memory device.

52. (New) The apparatus of claim 33, wherein the apparatus includes a server array controller configured to configured to perform the functions of the one or more switch components and the one or more of control components.

53. (New) A method for directing communications among a plurality of resources, comprising:

employing one or more switch components to:

analyze each of a plurality of data flows; and

determine if the data flow is associated with a requested resource and:

when the data flow is associated with the requested resource, direct the data flow to the requested resource; and

when the data flow is unassociated with a requested resource, request instructions from a control component;

employing a plurality of control components configured to:

receive a request from at least one switch component for instructions on handling the unassociated data flow;

provide instructions to the switch component for handling the unassociated data flow; and

process requests from the one or more switch components directed to an other control component when the other control component fails to operate;

scaling a capacity of the one or more switch components by one of changing a capacity of the one or more switch components and a number of the switch components used; and

scaling a capacity of the plurality of control components by one of changing a capacity of the plurality of control components and a number of the control components used.

54. (New) The method of claim 53, wherein each of the plurality of control components shares a load of instruction requests from the one or more switch components.

55. (New) The method of claim 53, wherein the plurality of control components both receive all instruction requests from the one or more switch components to provide fault tolerance when one of the plurality of control components fails to operate.

56. (New) The method of claim 53, wherein the one or more switch components and the plurality of control components communicate asynchronously.

57. (New) An apparatus for directing communications among a plurality of resources, comprising:

one or more hardware-based switch components having a switching capacity scalable by changing one of a capacity and a number of the switch components, each of the switch components being configured to:

receive a plurality of data packets;

categorize groups of one of more data packets into one or more data flows; and

determine if each of the data flows is associated with a requested resource and:

when the data flow is associated with the requested resource, direct the data flow to the requested resource; and

when the data flow is not associated with the requested resource, request instructions from a control component;

a plurality of control components, each of the control components having a control capacity scalable by changing one of a capacity and a number of the control components, each of the control components being configured to:

receive a request from at least one switch component for instructions on handling the unassociated data flow;

provide instructions to the switch component for handling the unassociated data flow; and

replace another failing control component in processing instruction requests from the one or more switch components when the failing control component fails to operate;

an asynchronous message bus over which the one or more switch components and the plurality of control components communicate; and

a data flow table accessible to the one or more switch components and to the plurality of control components for one of determining and changing a response of the apparatus to data flows according whether each is associated or unassociated with a requested resource.

58. (New) The apparatus of claim 57, wherein one of the one or more switch components and the plurality of control components is configured to:

determine when an event associated with the data flow occurs; and

respond to the event,

wherein the event includes one of:

an overflow condition; and

a timeout condition.

59. (New) The apparatus of claim 57, wherein the one or more switch components collect information regarding each connection to each resource, including one or more of:

a most active flow;

a least active flow;

a most recent activity; and

a time the data flow was opened.

60. (New) The apparatus of claim 57, wherein the plurality of control components all receive all instruction requests from the one or more switch components to provide fault tolerance when one of the plurality of control components fails to operate.

61. (New) A method for directing a plurality of data among a plurality of resources, comprising:

monitoring which of the plurality of resources is to receive an existing data flow;

providing one or more switch components configured to:

when the data flow is associated with a specified resource, direct the existing data flow to the requested resource; and

when the data flow is not associated with a specified resource, request instructions from a control component;

providing a plurality of control components configured to:

receive a request from at least one switch component for instructions on handling the unassociated data flow;

provide instructions to the switch component for handling the unassociated data flow; and

replace another failing control component in processing instruction requests from the one or more switch components when the failing control component fails to operate;

scaling a capacity of the one or more switch components by one of changing a capacity of the one or more switch components and a number of the switch components used; and

scaling a capacity of the plurality of control components by one of changing a capacity of the plurality of control components and a number of the control components used.

62. (New) The method of claim 61, wherein the plurality of control components receive all instruction requests from the one or more switch components to provide fault tolerance when one of the plurality of control components fails to operate.

63. (New) The method of claim 61, wherein:

the one or more switch components are implemented with dedicated hardware components; and

the plurality of control components are implemented with a programmable processing unit executing instructions stored in a rewritable memory device.

64. (New) An apparatus for directing communications among a plurality of resources, comprising:

a controller;

one or more switch components operably coupled with the controller and configured to:

monitor a plurality of data flows,

identify a first group of data flows associated with one or more resources and a second group of data flows unassociated with the one or more requested resources, and:

direct the first group of data flows to the requested resources, or

request data flow direction instructions from one or more control components, which when executed by the one or more switch components, enable the switch components to direct the second group of data flows to a resource specified by the one or more control components; and

the one or more control components, operably coupled with the controller, being configured to:

provide the one or more switch components with the data flow direction instructions for directing the second group of data flows to the particular location,

wherein the controller is configured to independently scale a capacity of the one or more switch components and a capacity of the one or more control components by at least one of:

adjusting the capacity of the one or more switch components and the capacity of the one or more control components to direct at least one of the first and second groups of data flows; and

utilizing a fewer or greater number of the one or more switch components or the one or more control components to direct at least one of the first and second groups of data flows.